

Fig. 1



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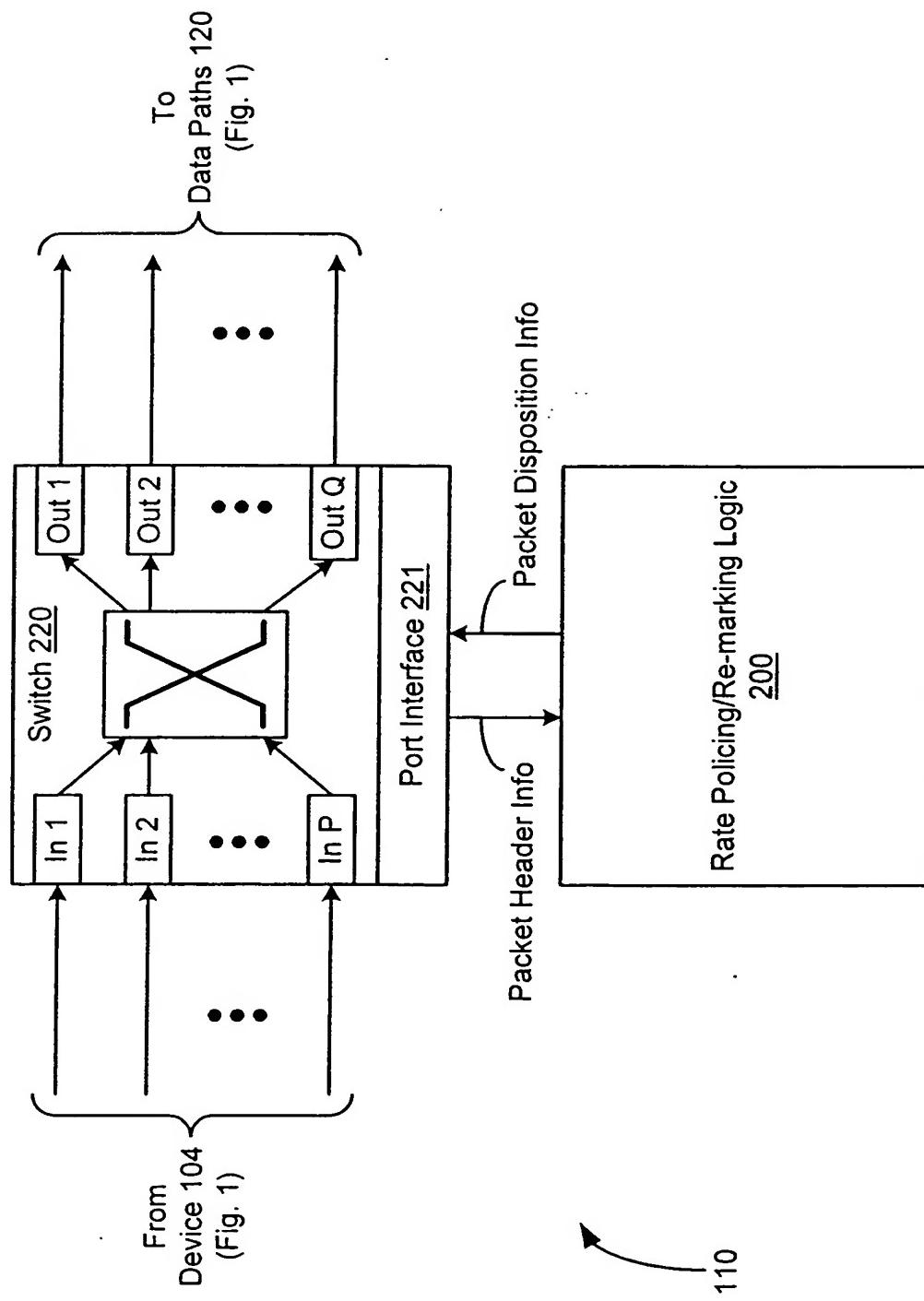


Fig. 2

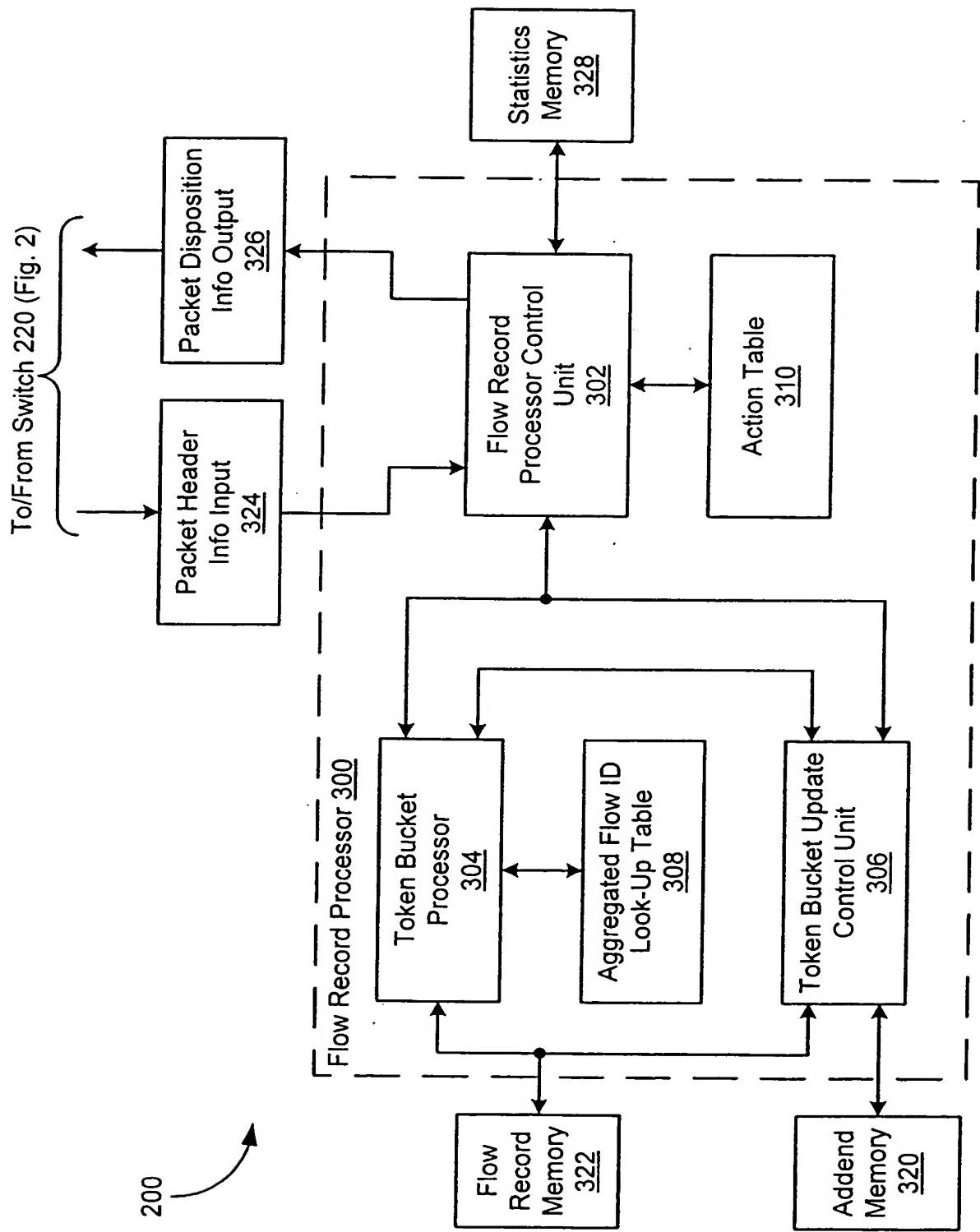


Fig. 3



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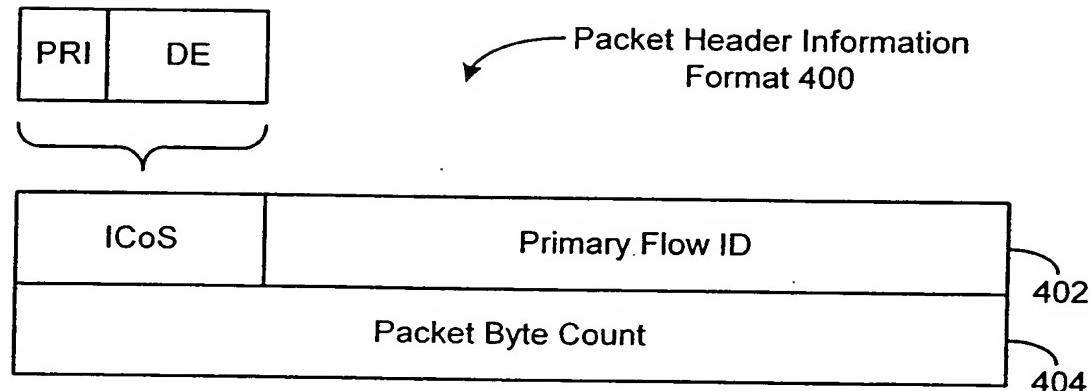


Fig. 4

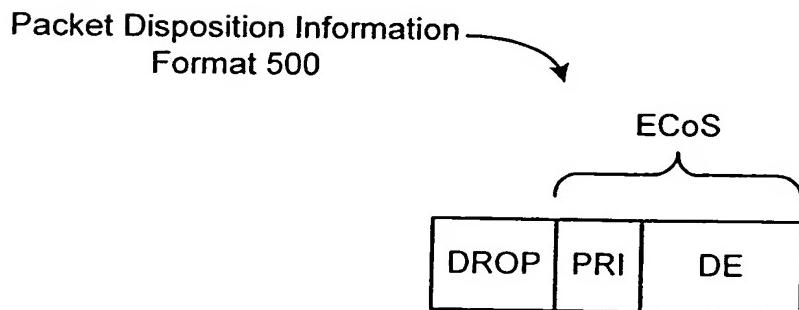


Fig. 5

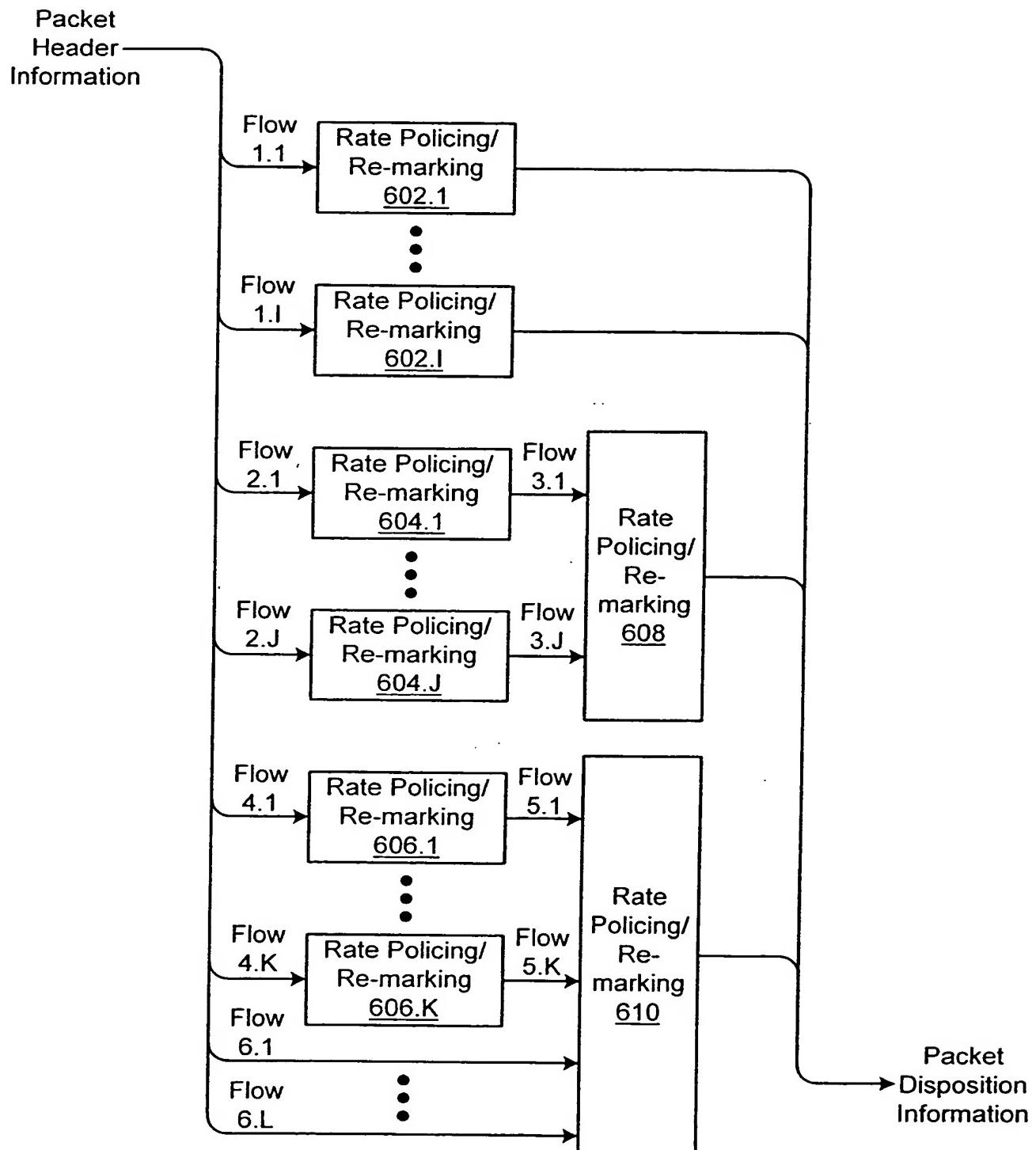


Fig. 6



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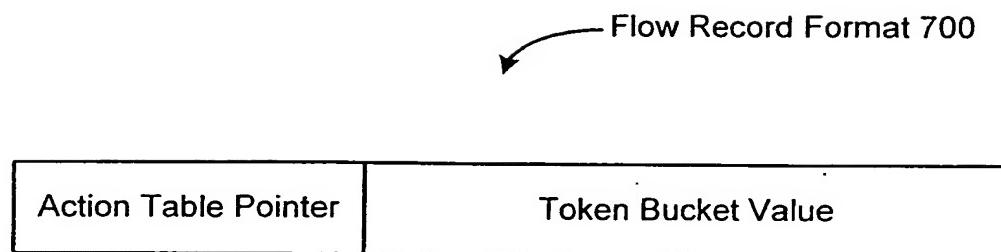


Fig. 7

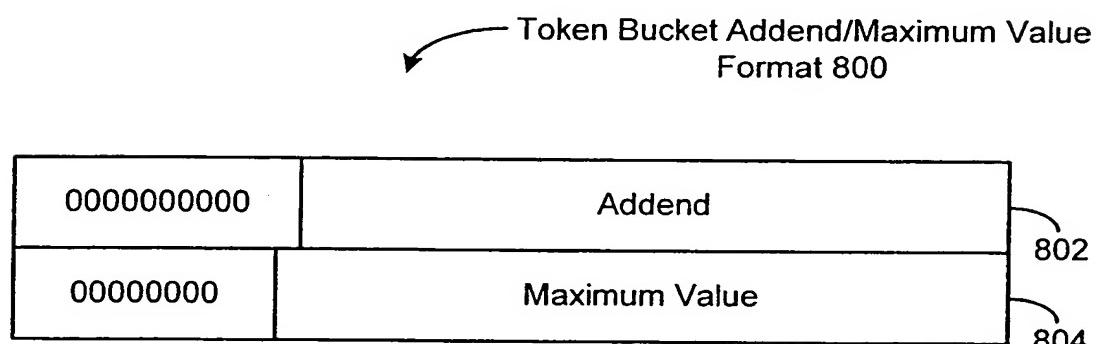


Fig. 8

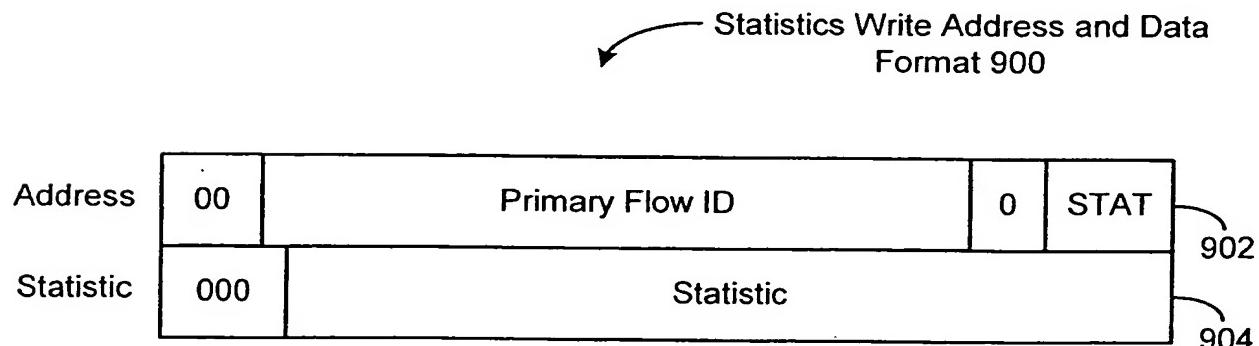


Fig. 9



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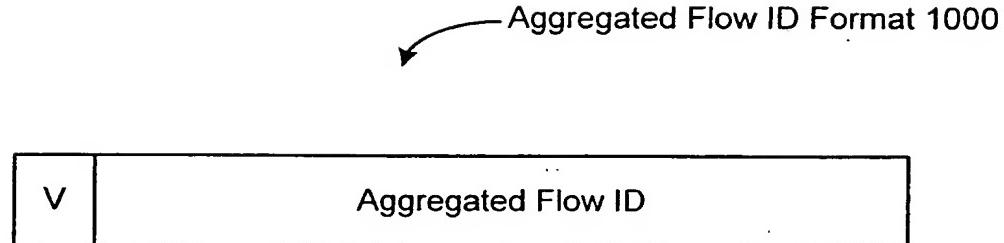


Fig. 10

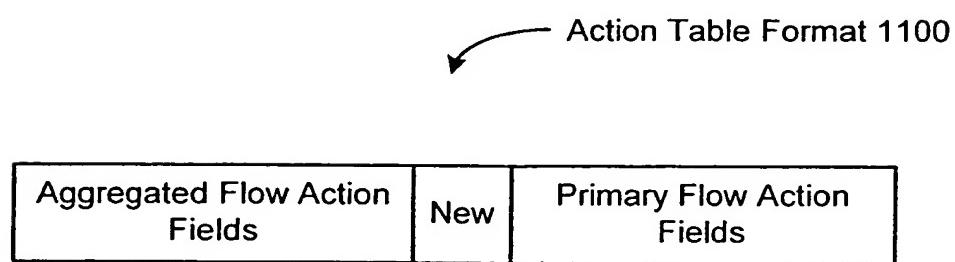


Fig. 11



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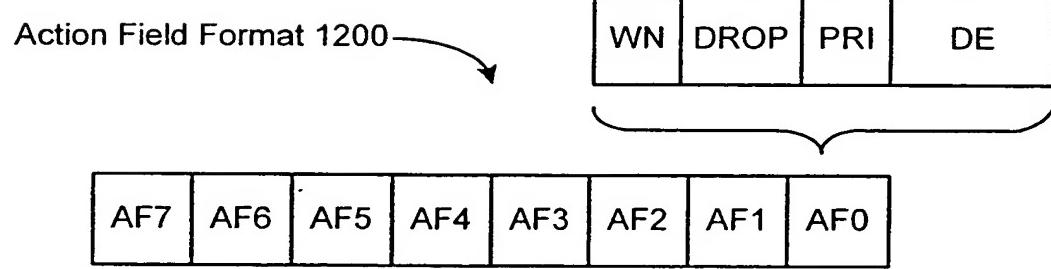


Fig. 12



```
Label: GetNextPacket      // From Packet Header Input
B = PacketByteCount
CCOS = ClassofServiceofPacket
NCCOS = NewClassofService
NCCOS = CCOS

// Use PrimaryFlowID to look-up primary token bucket flow record and
// AggregatedFlowID
PTB = TokenBucket(PrimaryFlowID)
ATB = TokenBucket(AggregatedFlowID)
ATP = ActionTablePointer(PrimaryFlowID)
V = ValidBit(PrimaryFlowID)
AFID = AggregatedFlowID(PrimaryFlowID)

// Use the ATP to get the current action table entry
AT1 = ActionTableLow(ATP) // Primary Action Table Entry
UseNewCos = ActionTableNew(ATP) // Action Table New Bit
AT2 = ActionTableHigh(ATP) // Aggregated Action Table Entry

// Perform the primary token bucket test
If PTB - B < 0;
    If Drop(AT1, CCOS) = True;
        Drop the packet;
        go to GetNextPacket;
    else
        NCCOS = NewCCOS(AT1, CCOS);
        If WholeNumber(AT1, CCOS) = False;
            PTB = PTB - B;
else
    PTB = PTB - B;
```



```
// Check the valid bit of the AggregatedFlowID
If V = False;
    Write NCCOS into egressPacketHeader;
    go to GetNextPacket;
else // Use AggregatedFlowID to look-up aggregated token bucket
    // flow record
    If UseNewCCOS = True;
        CCOS = NCCOS;
    // Perform the aggregated token bucket test
    If ATB - B <0;
        If Drop(AT2, CCOS) = True;
            Drop the packet;
            go to GetNextPacket;
        else
            NCCOS = NewCCOS(AT2, CCOS)
            If WholeNumber(AT2, CCOS) = False;
                ATB = ATB - B;
            else
                ATB = ATB - B;
    Write NCCOS into egressPacketHeader;
    go to GetNextPacket;
```